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THE CASH FLOW GROWTH PROFILE™: A SURVEY OF SEVERAL TECHNOLOGY INDUSTRIES

EXECUTIVE SUMMARY

The Cash Flow Growth Profile™ measures the capacity of a firm to generate cash flow as it grows revenue. The metric is forward looking and reports the amount of incremental cash flow that can be expected for any measured amount of *growth* in revenue. In this report we examine the Cash Flow Growth Profile™ of five technology industries, computer hardware, computer software, information technology services, telecommunications equipment, and semiconductors and related capital equipment. We look at trends in the Profile for eleven individual companies, two in each industry plus Microsoft Corp. In examining the Cash Flow Growth Profile™, the drivers or determinants of core operating cash flow and free cash flow are highlighted.

Data for this research were provided by Cash Flow Analytics, LLC., www.cashflowanalytics.com.
Charles Mulford is a principal in Cash Flow Analytics, LLC.

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Georgia Tech Financial Analysis Lab

The Georgia Tech Financial Analysis Lab conducts unbiased stock market research. Unbiased information is vital to effective investment decision-making. Accordingly, we think that independent research organizations, such as our own, have an important role to play in providing information to market participants.

Because our Lab is housed within a university, all of our research reports have an educational quality, as they are designed to impart knowledge and understanding to those who read them. Our focus is on issues that we believe will be of interest to a large segment of stock market participants. Depending on the issue, we may focus our attention on individual companies, groups of companies, or on large segments of the market at large.

A recurring theme in our work is the identification of reporting practices that give investors a misleading signal, whether positive or negative, of corporate earning power. We define earning power as the ability to generate a sustainable stream of earnings that is backed by cash flow. Accordingly, our research may look into reporting practices that affect either earnings or cash flow, or both. At times, our research may look at stock prices generally, though from a fundamental and not technical point of view.

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THE CASH FLOW GROWTH PROFILE™:
A SURVEY OF SEVERAL TECHNOLOGY INDUSTRIES

Companies Named in this Report

In this report we examine the Cash Flow Growth Profile™ of five technology industries, computer hardware, computer software, information technology services, telecommunications equipment, and semiconductors and related capital equipment. We look at trends in the Profile for eleven individual companies, two in each industry plus Microsoft Corp.

The individual companies examined are as follows:

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THE CASH FLOW GROWTH PROFILE™: A SURVEY OF SEVERAL TECHNOLOGY INDUSTRIES

Introduction

The first foundational brick in a company's economic performance is its revenue stream – its ability to sell goods and services to its customers. It is not just revenue, however, but revenue growth and the ability of the firm to convert those revenues into sustainable earnings that serve as key drivers behind increasing enterprise value.

But investors also look beyond earnings to cash flow and a company's ability to translate its earnings into sustainable cash flow, especially free cash flow, as an additional ingredient in the value mix. It is free cash flow and growth in free cash flow, that discretionary stream of cash that a company can put to use for acquisitions, debt retirement, dividends and stock buybacks, that works with growing earnings to drive firm value higher. Because it is "free," free cash flow comes with no strings attached. It is truly discretionary. Spending it does not impact the company's ability to generate more.

A company with revenue growth will eventually lose the favor of investors if it never finds a way to generate earnings. In a similar way, a company with profits that is unable to generate cash will also experience waning investor enthusiasm. It may take a while. Investors are patient with profitable, growing companies. Ultimately, however, a company must show an ability to generate free cash flow. Consider Home Depot. The successful company operated for years without generating positive free cash flow. It was only in its fiscal 2001 that the company began generating free cash flow consistently.

Companies that consume cash must continually seek new sources of capital – whether debt or equity. At some point, those sources of capital will dry up or become prohibitively expensive if the firm does not show at least some progress toward getting closer to positive cash generation. Worse, if cash does not back a company's earnings, ultimately those earnings themselves may become suspect, necessitating write-downs of the resulting non-cash assets. Net losses will likely accompany those write-downs.

The Cash Flow Growth Profile™

To address a firm's prospects for generating cash flow as it grows revenue, one can examine a company's Cash Flow Growth Profile™.

The Cash Flow Growth Profile™ measures the capacity of a firm to generate cash flow as it grows revenue. The metric is forward looking and reports the amount of incremental cash flow that can be expected for any measured amount of *growth* in revenue. It is reported as a percentage. A firm with a positive cash flow growth profile will produce increasing amounts of cash flow as it grows. A firm with a negative cash flow growth profile will require other sources of cash to support growth. Obviously, for a profitable and growing company, a positive cash flow growth profile is more appealing than a negative one. Though a cash flow growth profile that is becoming progressively less negative indicates progress toward reaching positive cash flow.

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Many financial analysts look for companies that are adept at growing revenue and earnings. Indeed, earnings growth is at the heart of many stock valuation models. However, earnings growth does not necessarily translate into cash flow growth. The Cash Flow Growth Profile™ is a measure of whether a firm can be expected to provide or consume cash as it grows.

Growth is often considered to be a cash drain. That is, while growth is desired, it is often viewed as something that needs to be financed. In this view, as growth increases, so does a company's need for capital. However, it is not necessarily the case that growth must be financed. In fact, a firm with a positive Cash Flow Growth Profile™ will actually generate increasing amounts of cash flow as growth accelerates.

There are two separate measures of a company's Cash Flow Growth Profile™, its Core Operating Growth Profile™ and its Free Cash Growth Profile™. The Core Operating Growth Profile™ measures the capacity of a firm to generate core operating cash flow as it grows. Core operating cash flow is cash flow provided by operations, but excludes non-core sources of cash flow, financing costs and taxes. A firm's core operating growth profile reflects a combination of its operating cushion (operating profit before non-cash depreciation and amortization) and operating working capital requirements, expressed as a percentage of revenue. It is measured as the operating cushion % (operating cushion to revenue) less operating working capital % (operating working capital to revenue). The metric reports the amount of core operating cash flow that can be expected for any measured amount of growth in revenue under the assumption that a firm's current mix of operating cushion and operating working capital remains unchanged.

The Free Cash Growth Profile™ measures the capacity of a firm to generate free cash flow as it grows. This metric incorporates taxes and capital expenditures into the calculations, two expenditures that are typically expected to grow with revenue. The free cash growth profile is measured as the core operating growth profile minus income taxes paid to revenue and minus capital expenditures to revenue. The metric measures the amount of free cash flow that can be expected for any measured amount of growth in revenue under the assumption that a firm's current mix of operating cushion, operating working capital, income taxes paid and capital expenditures, all as percentages of revenue, remain unchanged.[1]

As a group, technology firms, the focus of this research report, can be excellent cash generators. They tend to have high operating margins and many have low inventory needs. Microsoft Corp. is no exception. The company is renowned for its ability to generate free cash flow. As of its fiscal year ended June 2006, the company's Core Operating Growth Profile™ is 59.3%, indicating that for every incremental dollar of revenue the company is expected to generate 59.3 additional cents of core operating cash flow. With a Free Cash Growth Profile™ of 41.8%, the company can be expected to produce 41.8 additional cents of free cash flow for every dollar increase in revenue. These are indeed strong measures of cash generation. Of course, if the company's operating cushion or working capital needs, its tax position or capital spending requirements were to change, then its ability to generate free cash flow would also change. But the cash impact of those changes would reflect changes in cash flow because of a change in the company's Profile and would not reflect the cash impact of growth. More specifically, beyond evaluating a company's growth prospects and its ability to generate cash flow as it grows, an analysis of changes in its free cash growth profile is also useful in evaluating the firm's future

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cash flow prospects. In Exhibit 1 we present the Free Cash Growth Profile™ and its components for Microsoft between 2002 and 2006.

Exhibit 1. Microsoft Corp., Free Cash Growth Profile™, 2002 – 2006.

	2006	2005	2004	2003	2002
Microsoft Corp.					
Gross margin (excl. depreciation and amortization)%	84.48%	86.16%	84.53%	86.31%	84.84%
SG&A (excl. depreciation and amortization) %	23.99%	20.49%	13.24%	23.12%	21.52%
R&D %	14.87%	15.54%	21.12%	14.47%	15.18%
Operating cushion %	45.61%	50.13%	50.17%	48.71%	48.14%
Operating working capital to revenue %	-13.69%	-12.00%	-1.38%	-11.43%	-7.69%
Core operating growth profile™	**59.31%**	**62.13%**	**51.55%**	**60.15%**	**55.82%**
Income taxes paid to revenue %	13.83%	14.66%	11.74%	10.49%	12.58%
Capital expenditures to revenue %	3.71%	2.02%	4.00%	4.77%	4.53%
Free Cash Growth Profile™	**41.77%**	**45.45%**	**35.81%**	**44.88%**	**38.71%**
Cash cycle	-49.98	-43.79	-5.04	-41.73	-28.05
Operating receivables days	76.79	65.87	58.36	58.92	66.00
Inventory days	12.18	4.50	4.17	7.26	8.66
Operating payables days	23.98	19.14	17.01	17.84	15.54
Deferred revenue days	89.86	84.09	81.03	102.23	99.64

As noted in Exhibit 1, Microsoft's Free Cash Growth Profile™ worsened to 41.8% in 2006 from 45.5% in 2005. A key contributing factor to the change was the decline in the company's operating cushion, offset somewhat by a decline in its operating working capital requirements, which was a negative 13.7% in 2006. It is an enviable position to be in. That is, the company's operating working capital liabilities, items such as accounts payable, accrued expenses payable and deferred revenue, actually exceeded its operating working capital assets, including such items as accounts receivable and prepaid expenses. Analysts should take note. Operating working capital liabilities as a percentage of revenue cannot be expected to increase indefinitely, calling into question the sustainability of at least a component of free cash flow generated during 2006. The company's Free Cash Growth Profile™ may not be as strong at the end of fiscal 2007 as it was at the end of fiscal 2006.

Purpose of this Research Report

In this report we research the Core Operating Growth Profile™ and Free Cash Growth Profile™ for five technology industries, computer hardware, computer software, information technology services, telecommunications equipment, and semiconductors and related capital equipment. We then examine trends in the Free Cash Growth Profile™ for two firms in each of the technology industries – one with a strong Profile and one with a weaker Profile. Our objective is to better educate the reader on these important measures of performance and to help him or her look beyond revenue and earnings growth to other determinants of firm value.

Industry Results

We examined the Free Cash Growth Profile™ for firms in five technology industries. While there are clearly other industries that readers would consider to be technology-related, for

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example, medical technology, precision instruments and electronics, our focus was more on information-related technologies. We limited our sample to firms with market capitalizations of $100 million or greater, though two of our featured firms are slightly smaller. The industries studied and the SIC codes represented by each are presented in Exhibit 2.

Exhibit 2. Technology Industries Studied

Technology Industry	SIC Codes Represented	No. of Firms
Computer Hardware	3570, 3571, 3575, 3577, 3578	46
Computer Software	7372	141
Information Technology Services	7370, 7371, 7373, 7374	153
Telecommunications Equipment	3576, 3661, 3663, 3669	98
Semiconductors and Related Capital Equipment	3674, 3559	146

In Exhibit 3 we present the Free Cash Growth Profile™ and its components for the median firm in the five technology industries.

Exhibit 3. Free Cash Growth Profile™, Median Firms in Five Technology Industries, 2006.

	Computer Hardware	Computer Software	Info. Tech. Services	Telecom Equipment	Semi Conductors
Gross margin (excl. depreciation and amortization)%	52.84%	71.85%	74.33%	59.84%	54.58%
SG&A (excl. depreciation and amortization)%	26.41%	47.90%	36.18%	27.24%	9.87%
R&D%	6.45%	13.29%	22.36%	16.75%	30.85%
Operating cushion%	19.97%	10.67%	15.79%	15.85%	13.86%
Operating working capital to revenue %	27.09%	-4.84%	11.33%	1.60%	21.10%
Core operating growth profile™	**-7.12%**	**15.51%**	**4.46%**	**14.24%**	**-7.23%**
Income taxes paid to revenue%	5.45%	1.85%	-1.97%	4.91%	0.74%
Capital expenditures and investment to revenue%	4.82%	1.35%	8.47%	-0.27%	3.55%
Free Cash Growth Profile™	**-17.39%**	**12.30%**	**-2.04%**	**9.60%**	**-11.52%**

At the end of fiscal 2006, the computer software industry demonstrated the strongest free cash growth profile. Heading into 2007, the median firm in that industry enjoyed a free cash growth profile of 12.3%. That is, for every dollar of *growth* in revenue expected during 2007, the average software firm can be expected to generate 12.3 cents in additional free cash flow. The average software firm does it with a very high gross margin and operating cushion, but interestingly, the software firm's operating cushion was actually lower than the average firm in the other industries studied.[2] The average software firm is able to achieve a superior free cash growth profile with a negative operating working capital to revenue % of -4.8%. The average firm in the other industries has positive operating working capital requirements and those requirements pushed their free cash growth profiles lower.

On the other end of the spectrum, the free cash growth profile for the median firm in the computer hardware industry is -17.4%. The company is expected to consume 17.4 cents of free cash flow for every dollar of revenue growth. While the firm enjoys a very high operating

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cushion of nearly 20%, high operating working capital and capital expenditure needs consumes its cash.

We now survey trends in the Free Cash Growth Profile™ for two firms in each of the technology industries studied.

Computer Hardware

Coinstar, Inc.

At the end of 2006, Coinstar, Inc.'s Free Cash Growth Profile™ was 23.5%, up from 15.2% in 2005. A decrease in its working capital needs, driven primarily by an increase in operating payables, and reductions in income taxes paid and capital expenditures, all contributed to the improvement. The company's operating cushion declined, falling to 9.6% from 12.7% as recently as 2004. A negative cash cycle, the number of revenue days a firm has its own funds invested in working capital, indicates that the company is financing its working capital assets entirely with vendor funds. Accruals days, not shown in the table below, is the primary reason for the company's negative cash cycle.

	2006	2005	2004	2003	2002
Coinstar, Inc.					
Gross margin (excl. depreciation and amortization)%	21.29%	20.91%	26.94%	56.38%	56.46%
SG&A (excl. depreciation and amortization) %	10.68%	9.24%	12.47%	19.52%	19.60%
R&D %	0.98%	1.24%	1.78%	3.28%	3.21%
Operating cushion %	9.63%	10.42%	12.69%	33.58%	33.64%
Operating working capital to revenue %	-17.09%	-12.95%	-8.25%	-15.77%	-12.87%
Core operating growth profile™	**26.72%**	**23.37%**	**20.94%**	**49.36%**	**46.51%**
Income taxes paid to revenue %	0.31%	3.31%	3.31%	6.77%	-26.69%
Capital expenditures to revenue %	2.89%	4.86%	34.98%	15.54%	15.59%
Free Cash Growth Profile™	**23.51%**	**15.21%**	**-17.34%**	**27.05%**	**57.61%**
Cash cycle	-62.38	-47.25	-30.13	-57.57	-46.97
Operating receivables days	14.57	7.18	6.28		
Inventory days	26.86	24.80	30.76		
Operating payables days	39.29	27.60	28.12	4.41	7.45
Deferred revenue days					

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Intermec, Inc.

Intermec has averaged a gross margin (before depreciation and amortization) of 38% since 2002, but has averaged a -15.13% Free Cash Growth Profile™. In 2006, the company's operating cushion was 5.2%, and was more than consumed by operating working capital to revenue needs of 32.6%. Once taxes and capital expenditures were factored in, the company's Free Cash Growth Profile™ at the end of 2006 was a negative 30.9%.

	2006	2005	2004	2003	2002
Intermec, Inc.					
Gross margin (excl. depreciation and amortization)%	40.19%	42.53%	43.97%	31.75%	31.56%
SG&A (excl. depreciation and amortization) %	26.45%	26.76%	26.62%	22.17%	20.08%
R&D %	8.52%	7.60%	7.65%	5.05%	4.07%
Operating cushion %	5.22%	8.17%	9.70%	4.53%	7.42%
Operating working capital to revenue %	32.59%	31.16%	10.48%	22.09%	19.96%
Core operating growth profile™	**-27.37%**	**-22.99%**	**-0.78%**	**-17.56%**	**-12.54%**
Income taxes paid to revenue %	1.24%	1.59%	-0.19%	1.10%	0.40%
Capital expenditures to revenue %	2.32%	1.50%	-4.59%	-2.11%	-6.83%
Free Cash Growth Profile™	**-30.93%**	**-26.07%**	**3.99%**	**-16.55%**	**-6.10%**
Cash cycle	118.94	113.74	38.26	80.62	72.84
Operating receivables days	68.01	75.46	71.01	89.61	94.83
Inventory days	51.11	34.22	36.38	43.02	38.49
Operating payables days	48.61	62.01	71.98	86.36	79.69
Deferred revenue days	26.77	24.37			

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Computer Software

Red Hat, Inc.

Red Hat has been improving its ability to generate cash consistently since their IPO. At the end of 2006, an additional dollar of revenue leads to 53.8 cents of free cash flow. The company enjoys a very negative cash cycle of –233.2 days, driven primarily by deferred revenue. The company is paid in advance for its software. During 2006, an increase in income taxes paid and capital expenditures hurt somewhat the company's Free Cash Growth Profile™.

	2006	2005	2004	2003	2002
Red Hat, Inc.					
Gross margin (excl. depreciation and amortization)%	88.20%	87.85%	86.18%	78.49%	70.23%
SG&A (excl. depreciation and amortization) %	42.62%	44.18%	46.34%	45.93%	51.14%
R&D %	17.73%	14.69%	16.53%	21.23%	24.68%
Operating cushion %	27.85%	28.99%	23.32%	11.32%	-5.59%
Operating working capital to revenue %	-63.89%	-62.17%	-45.56%	-24.01%	-1.63%
Core operating growth profile™	**91.74%**	**91.16%**	**68.88%**	**35.33%**	**-3.96%**
Income taxes paid to revenue %	8.66%	-0.16%	-0.24%	-3.18%	-0.25%
Capital expenditures to revenue %	29.24%	6.58%	15.32%	13.51%	-28.19%
Free Cash Growth Profile™	**53.84%**	**84.73%**	**53.80%**	**25.01%**	**24.48%**
Cash cycle	-233.20	-226.92	-166.30	-87.64	-5.94
Operating receivables days	80.15	78.41	96.53	124.86	97.98
Inventory days				8.18	3.21
Operating payables days	24.48	18.92	15.65	20.93	22.09
Deferred revenue days	308.52	293.08	255.11	215.65	71.37

Midway Games, Inc.

At the end of 2006, Midway Games had a free cash growth profile of –87.5%. The company has a negative operating cushion, which when combined with operating working capital needs, income taxes paid and capital expenditures, results in significant cash needs to support growth.

	2006	2005	2004	2003	2002
Midway Games, Inc.					
Gross margin (excl. depreciation and amortization)%	17.55%	11.80%	39.28%	-13.95%	30.04%
SG&A (excl. depreciation and amortization) %	35.05%	48.32%	34.26%	67.31%	33.57%
R&D %	22.36%	26.45%	15.86%	24.65%	13.03%
Operating cushion %	-39.85%	-62.97%	-10.84%	-105.91%	-16.57%
Operating working capital to revenue %	46.45%	34.84%	23.85%	-3.14%	27.37%
Core operating growth profile™	**-86.30%**	**-97.80%**	**-34.69%**	**-102.77%**	**-43.95%**
Income taxes paid to revenue %	0.20%	-0.03%	0.00%	-2.62%	1.48%
Capital expenditures to revenue %	0.95%	2.38%	5.01%	1.94%	4.24%
Free Cash Growth Profile™	**-87.45%**	**-100.15%**	**-39.70%**	**-102.09%**	**-49.67%**
Cash cycle	169.54	127.16	87.05	-11.48	99.92
Operating receivables days	113.23	74.99	35.52	62.39	103.24
Inventory days	6.37	14.13	15.57	14.07	17.72
Operating payables days	17.34	30.23	15.07	21.35	19.80
Deferred revenue days	4.41				

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Information Technology Services

Fiserv, Inc.

Fiserv can be expected to generate approximately 6.7 cents of free cash flow for every dollar increase in revenue. The positive Free Cash Growth Profile™ is driven by an operating cushion of 21.6%, less operating working capital to revenue of 4.1% minus taxes and capital expenditures.

	2006	2005	2004	2003	2002
Fiserv, Inc.					
Gross margin (excl. depreciation and amortization)%	32.28%	34.11%	21.31%	21.37%	22.74%
SG&A (excl. depreciation and amortization) %	10.69%	11.23%	-1.35%	-1.42%	0.00%
R&D %					
Operating cushion %	21.59%	22.88%	22.65%	22.80%	22.74%
Operating working capital to revenue %	4.07%	1.80%	-0.61%	7.63%	4.71%
Core operating growth profile™	**17.51%**	**21.07%**	**23.27%**	**15.17%**	**18.03%**
Income taxes paid to revenue %	5.63%	7.77%	4.88%	5.18%	6.04%
Capital expenditures to revenue %	5.23%	5.79%	4.15%	10.30%	11.18%
Free Cash Growth Profile™	**6.65%**	**7.51%**	**14.24%**	**-0.32%**	**0.81%**
Cash cycle	14.87	6.59	-2.24	27.85	17.18
Operating receivables days	48.29	49.76	42.84	285.18	295.57
Inventory days					
Operating payables days	18.40	21.74	19.83	237.77	254.21
Deferred revenue days	21.14	21.59	22.12	25.28	25.74

Authentidate Holding Corp.

Authentidate Holding Corp, while having 62.6% gross margin, has a -97.2% Free Cash Growth Profile™. Every incremental dollar of revenue requires an additional cash investment of 97.2 cents. The primary culprit is a negative operating cushion – operating expenses consume more than 100% of every revenue dollar.

	2006	2005	2004	2003	2002
Authentidate Holding Corp.					
Gross margin (excl. depreciation and amortization)%	62.58%	56.90%	44.36%	33.77%	37.51%
SG&A (excl. depreciation and amortization) %	137.78%	111.59%	72.92%	49.83%	64.34%
R&D %	24.11%	17.88%	12.36%	10.03%	13.04%
Operating cushion %	-99.32%	-72.58%	-40.93%	-26.09%	-39.87%
Operating working capital to revenue %	-11.77%	-13.64%	-2.29%	-2.58%	8.48%
Core operating growth profile™	**-87.55%**	**-58.94%**	**-38.64%**	**-23.51%**	**-48.35%**
Income taxes paid to revenue %	0.10%	0.01%	0.01%	0.00%	-0.02%
Capital expenditures to revenue %	9.53%	10.58%	8.31%	8.50%	15.30%
Free Cash Growth Profile™	**-97.18%**	**-69.52%**	**-46.96%**	**-32.01%**	**-63.63%**
Cash cycle	-42.95	-49.80	-8.35	-9.41	30.95
Operating receivables days	60.72	67.21	57.65	52.62	97.53
Inventory days	12.55	6.32	2.37	2.79	10.53
Operating payables days	98.78	27.80	16.29	20.74	41.67
Deferred revenue days	48.83	52.09	35.68	25.09	21.93

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Telecom Equipment

Brocade Communications Systems, Inc.

Brocade Communications emerged from the telecom collapse and has been improving consistently since by increasing its operating cushion and carefully managing its working capital needs. At the end of 2006, each additional dollar of revenue provides 25 cents of additional free cash flow.

	2006	2005	2004	2003	2002
Brocade Communications Systems, Inc.					
Gross margin (excl. depreciation and amortization)%	63.55%	64.54%	65.27%	63.50%	59.74%
SG&A (excl. depreciation and amortization) %	18.23%	20.86%	20.56%	0.25%	24.36%
R&D %	21.96%	24.16%	25.12%	53.30%	23.51%
Operating cushion %	23.36%	19.52%	19.59%	9.95%	11.88%
Operating working capital to revenue %	-11.83%	-9.01%	-6.25%	40.29%	40.89%
Core operating growth profile™	**35.19%**	**28.53%**	**25.84%**	**-30.34%**	**-29.02%**
Income taxes paid to revenue %	3.81%	0.51%	2.87%	-0.69%	-0.04%
Capital expenditures to revenue %	6.37%	5.40%	9.14%	5.72%	8.21%
Free Cash Growth Profile™	**25.02%**	**22.62%**	**13.83%**	**-35.37%**	**-37.19%**
Cash cycle	-43.19	-32.87	-22.81	147.06	149.25
Operating receivables days	47.85	44.57	58.63	52.07	69.26
Inventory days	4.36	7.01	3.43	2.75	3.51
Operating payables days	27.59	15.12	23.75	29.84	37.34
Deferred revenue days	29.60	28.92	21.36	13.82	14.56

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Ditech Networks, Inc.

Ditech Networks has a negative free cash growth profile of –91.5%. At the end of 2006, the company's operating cushion was only marginally positive. Operating working capital, taxes and capital expenditures pushed the company's Free Cash Growth Profile™ negative.

	2006	2005	2004	2003	2002
Ditech Networks, Inc.					
Gross margin (excl. depreciation and amortization)%	75.08%	79.36%	70.55%	65.30%	3.14%
SG&A (excl. depreciation and amortization) %	40.81%	25.17%	26.55%	37.51%	-31.40%
R&D %	33.85%	16.83%	15.40%	70.51%	128.78%
Operating cushion %	0.43%	37.36%	28.60%	-42.71%	-94.24%
Operating working capital to revenue %	81.94%	61.96%	4.29%	30.78%	45.71%
Core operating growth profile™	**-81.51%**	**-24.60%**	**24.31%**	**-73.49%**	**-139.95%**
Income taxes paid to revenue %	2.50%	-38.27%	0.59%	-34.01%	45.26%
Capital expenditures to revenue %	7.53%	4.36%	-3.41%	14.30%	41.98%
Free Cash Growth Profile™	**-91.54%**	**9.31%**	**27.13%**	**-53.78%**	**-227.19%**
Cash cycle	299.07	226.15	15.64	112.36	166.85
Operating receivables days	35.07	36.16	34.32	48.15	46.44
Inventory days	55.30	22.24	31.23	65.24	116.22
Operating payables days	10.48	8.41	11.14	17.90	26.57
Deferred revenue days	72.80	0.78	12.85	0.93	25.56

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Semiconductors and Related Equipment

Amkor Technology, Inc.

Amkor Technology's Free Cash Growth Profile™ has improved from a low of -17.2% in 2004 to 13.2% in 2006. Over that period, the company has improved its operating cushion and lowered its working capital requirements. For example, the company is collecting its receivables 11 days sooner in 2006 than in 2002.

	2006	2005	2004	2003	2002
Amkor Technologies, Inc.					
Gross margin (excl. depreciation and amortization)%	35.18%	29.02%	31.38%	34.82%	29.38%
SG&A (excl. depreciation and amortization) %	8.60%	10.90%	10.91%	10.71%	12.30%
R&D %	1.42%	1.78%	1.93%	1.61%	2.22%
Operating cushion %	25.16%	16.34%	18.54%	22.50%	14.87%
Operating working capital to revenue %	0.38%	2.07%	1.95%	5.26%	3.13%
Core operating growth profile™	**24.79%**	**14.28%**	**16.60%**	**17.23%**	**11.73%**
Income taxes paid to revenue %	0.31%	1.29%	1.03%	0.55%	4.64%
Capital expenditures and investment to revenue %	11.31%	13.97%	32.76%	16.98%	-27.09%
Free Cash Growth Profile™	**13.17%**	**-0.98%**	**-17.20%**	**-0.29%**	**34.19%**
Cash cycle	1.37	7.55	7.11	19.21	11.44
Operating receivables days	51.75	67.19	51.74	73.39	62.97
Inventory days	21.96	24.01	21.43	21.04	18.72
Operating payables days	39.04	56.79	40.64	51.72	46.98
Deferred revenue days					

8X8, Inc.

In 2006 8X8, Inc. reported a negative operating cushion of –75.1%. However, with a negative working capital to revenue % of –18.4% and with capital expenditures to revenue of 6.5%, the company's free cash growth profile is –63.2%. The company needs to invest 63.2 cents for every dollar growth in revenue.

	2006	2005	2004	2003	2002
8X8, Inc.					
Gross margin (excl. depreciation and amortization)%	30.04%	16.98%	59.21%	77.19%	31.65%
SG&A (excl. depreciation and amortization) %	86.62%	161.47%	51.02%	67.62%	-5.19%
R&D %	18.55%	27.09%	29.51%	71.21%	78.72%
Operating cushion %	-75.13%	-171.58%	-21.33%	-61.64%	-41.88%
Operating working capital to revenue %	-18.39%	-33.50%	-12.95%	-12.37%	-15.89%
Core operating growth profile™	**-56.74%**	**-138.08%**	**-8.38%**	**-49.27%**	**-25.98%**
Income taxes paid to revenue %		0.11%	0.11%	0.49%	0.28%
Capital expenditures to revenue %	6.49%	16.08%	-1.27%	0.85%	10.80%
Free Cash Growth Profile™	**-63.23%**	**-154.27%**	**-7.22%**	**-50.60%**	**-37.06%**
Cash cycle	-67.12	-122.27	-47.25	-45.15	-58.01
Operating receivables days	8.88	36.39	23.84	42.79	30.78
Inventory days	19.89	50.89	3.84	11.68	18.21
Operating payables days	56.16	143.01	33.49	21.63	13.62
Deferred revenue days	28.53	82.77	21.45	18.08	60.15

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Concluding Comments

The Cash Flow Growth Profile™ is a useful metric for anticipating cash flow needs or surpluses associated with revenue growth. Analysts focused on growth may want to consider the metric in forming expectations about a firm's future capital needs. Among the five technology industries surveyed using 2006 data, computer hardware, computer software, information technology services, telecommunications equipment, and semiconductors and related capital equipment, the median firm in the computer software industry demonstrated the strongest Free Cash Growth Profile™. For each dollar of revenue growth the company is expected to generate 12.3 cents in free cash flow. At the other end of the spectrum is the median computer hardware firm, with a Free Cash Growth Profile™ of -17.4%.

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[1] Note that a company's core operating cash flow or free cash flow can be positive even when its core operating growth profile or free cash growth profile are negative. Core operating cash flow and free cash flow are measures of actual cash flow for the period just ended and reflect actual reported operating cushion, working capital changes, tax payments and capital expenditures. The Core Operating Growth Profile™ and Free Cash Growth Profile™ reflect the contribution to core operating cash flow and free cash flow for an incremental increase in revenue.

[2] While in 2006 the software firm with the median free cash growth profile of 12.3% had an operating cushion% of 10.7%, the median operating cushion% in the software industry that year was 15.3%

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